Perioperative complications in obese patients.
A thesis on risk reducing strategies.

av

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Abstract


Aspiration of gastric content and delayed or failed intubation are the leading causes of anesthesia-related mortality and morbidity. In the recovery period, airway obstruction with subsequent hypoxia is a relatively common cause of morbidity, and is highly associated to the amount of opioids administered, especially in obese patients.

The overall aim of this thesis was to study these risk factors for airway complications and postoperative hypoxia in obese patients, and to evaluate possible strategies for their prevention.

In Study I, intubation times and incidence of failed intubation in obese patients were compared between direct laryngoscopy and videolaryngoscopy with the Stortz® C-MAC™. In Studies II and III, the effect of esmolol vs. remifentanil on the esophageal junction, and the possible analgesic properties of low-dose esmolol vs. placebo were evaluated using high-resolution manometry and the cold pressor test, respectively. Finally, in Study IV, the possible opioid-sparing effect of esmolol after laparoscopic gastric bypass surgery was evaluated.

The use of videolaryngoscopy did not shorten intubation times, however appeared to reduce the incidence of failed intubation. Our results also show that esmolol has a favorable profile, compared to remifentanil, with regard to the protection against passive regurgitation and aspiration of gastric content. No analgesic effect of low-dose esmolol was however demonstrated. The intraoperative administration of esmolol instead of remifentanil also did not reduce the requirement of morphine for treatment of post-operative pain.

The use of Stortz® C-MAC™ may be recommended for intubation of obese patients. Further studies are however required to clarify the possible role of esmolol in anesthesia.

Keywords: Intubation time, videolaryngoscopy, obesity, esophagogastric junction, remifentanil, esmolol, high-resolution manometry, pulmonary aspiration, postoperative pain, postoperative opioid-sparing.

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